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U.S. Department of the Interior
Bureau of Land Management
Kremmling Field Office
P.O. Box 68
Kremmling, CO 80459

ENVIRONMENTAL ASSESSMENT

NUMBER: DOI-BLM-CO-120-2010-0048-EA

PROJECT NAME: Reed Creek Sanitation Harvest and Pre-Commercial Thinning

LEGAL DESCRIPTION: T. 1N., R. 77W., Sections 9, 10, 11 and 14, 6th P.M.

KREMMLING FIELD OFFICE, KREMMLING, COLORADO

CASEFILE/PROJECT NUMBER: N/A

APPLICANT: BLM

PURPOSE AND NEED FOR THE ACTION: An analysis of the existing condition in the Reed Creek project area has determined that there is a need to salvage standing dead and beetle-infested, lodgepole pine trees. A published literature peer reviewed paper (Lewis and Hartley, 2006), suggests that lodgepole pine trees killed by Mountain Pine Beetle (MPB) in previously unmanaged stands begin falling approximately five years after death and most dead trees are on the ground within 14 years. The ability to utilize beetle-killed pine declines rapidly once the trees are on the ground.

As dead trees begin to fall, they pose a threat to public safety which would increase as fall rates accelerate. Falling trees could also block access routes, and damage overhead power lines, fences along private property boundaries, and communication site infrastructure. In addition, fuel loading would increase dramatically in a stand once the beetle-killed pine is on the ground. There would be an increased risk that a fire occurring under these conditions would tend to be large-scale and severe, with resultant long-term impacts on site productivity (from factors such as soil sterilization).

There is also a need to reduce stand densities in regenerated stands to improve vigor, increase resilience to drought, and improve resistance to insect and disease infestations.

The primary purposes of this project would be to: reduce the threat to public safety; protect infrastructure; reduce the accumulation of fuels within the wildland/urban interface, and; salvage dead and dying timber while it still retains some value. Where feasible, hazard trees would be cut and removed near or adjacent to access roads, property boundaries, power lines, and other

infrastructure. The proposed action would also promote regeneration in the harvest units, and improve forest health and vigor in young regenerated stands.

Background/Introduction/Issues and Concerns: The Reed Creek analysis area encompasses approximately 1,500 acres of public lands administered by the BLM. Located within an area considered to be the epicenter of the current MPB epidemic in Colorado, the analysis area is about 3.5 miles southwest of the town of Granby. Approximately 1,300 acres of the analysis area are forested. The forest is primarily comprised of mature, and overmature, lodepole pine stands, although several aspen stands are scattered throughout the area. Aspen, subalpine fir, Engelmann spruce and Douglas-fir are found in varying amounts within some lodgepole pine stands, especially on northern aspects or in stringers along drainages. The remaining 200 acres are considered non-forested, dominated mainly by sagebrush, with grass and various forb species.

Mature and over-mature lodgepole pine stands have experienced severe MPB infestation and mortality with approximately 85-95 percent of trees larger than seven inches DBH (Diameter Breast Height) currently infested or dead. Many smaller trees with five or six inch diameters have been killed as well, largely due to their proximity to larger, beetle infested trees.

The area includes the North Cottonwood Communication Site and Mountain Parks Electric's (MPEI) power line that provides electricity to the site. The power line passes through the eastern third of the analysis area, entering along its eastern boundary and proceeding west to the communication site. A Right-of-Way (ROW) was granted in 1998 that conveyed the right to MPEI to construct, operate, maintain, and terminate a 14.4 KV power line on public land. The ROW authorized a width of 20 feet, 10 feet on either side of the power line, for a length of 6,870 feet. Forest regeneration and larger trees were cleared from within the 20 foot ROW during the construction of the power line. Private lands border almost all of the analysis area. Several of the adjacent landowners have previously removed, or are currently removing, dead trees to reduce hazardous fuels.

Access is via the Reed Creek Road (BLM 2752) which extends from County Road 572 to its terminus in the western portion of the analysis area. Approximately 3.4 miles of the Reed Creek Road crosses private land, from its junction with County Road 572 to the public land boundary. Although the road is not open to public use, the BLM has a perpetual easement for the road with the private landowners. In addition to the Reed Creek Road, other roads providing access within the analysis area include the Rockwell Road (BLM 2754), a short portion of the Windy Gap Road (BLM 2753), and short road spurs. The existing road system was developed to provide access for a timber sale in the late 1970s.

Past forest management in the Reed Creek project area includes two notable timber sales. The first timber sale occurred in 1977 and included 14 clearcut units totaling approximately 236 acres of harvest. The clearcut units have regenerated into overstocked stands of approximately 20-25 foot-tall lodgepole pine. Dwarf mistletoe is present in some of these regenerated stands, mostly around the perimeter, adjacent to mature stands. The second notable timber sale occurred in 1994 and consisted of four partial-cut units totaling approximately 50 acres. These units are now multi-aged lodgepole pine/mixed conifer with 90 percent mortality in the lodgepole pine overstory.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Proposed Action:
The BLM is proposing to use mechanical treatments to cut and remove dead, currently infested, and beetle/disease susceptible trees in 20 units totaling approximately 244 acres (See map 1). Where removal is not feasible, trees would be cut and left on site. These acres would be treated through timber sale contracts, service contracts, or by other means (e.g. stewardship contracts, BLM crews). The treatments would be implemented with conventional, ground-based logging equipment and/or by hand crews with chainsaws. It is anticipated that the activities described in the proposed action would be completed in 4-5 years, although monitoring could continue for some time after that.

The treatment units are comprised mainly of dead lodgepole pine, although a few scattered live trees remain. Some units also contain live, small diameter lodgepole pine, as well as, varying amounts of subalpine fir, Douglas-fir, Engelmann spruce and aspen. The emphasis is to harvest dead and dying trees within the units. Wind-throw susceptible trees (large trees of any species, but primarily, subalpine fir) would be harvested as well to prevent future blow-down after sale completion. Smaller diameter lodgepole pine and other conifer trees, as well as aspen, would be retained where feasible.

Units 17, 18 and 19 were designed to allow for the removal of hazard trees adjacent to the power line. Units 1-13 and 20 are salvage units that were designed to also incorporate hazardous tree removal along access roads. Most of these units are also immediately adjacent, or in close proximity, to private property/public land boundaries. Units 14, 15, and 16 were designed primarily as roadside hazard tree cutting units. Units 3, 4 and 16 treat additional areas adjacent to the power line where the ROW passes through these units.

For the most part, all lodgepole pine trees that are five inches DBH or greater would be cut. If patches of live, five and six-inch DBH lodgepole pine are identified within units, they may be left to provide some diversity, however, reconnaissance data shows that about 60 percent of these trees are beetle-hit or dead. Smaller diameter lodgepole pine (1-4 inch DBH) could be cut to remove damaged, dead, diseased, or beetle-hit trees, or to reduce stand densities. Larger subalpine fir, Engelmann spruce, Douglas-fir, or other species, would also be harvested. Minimum harvest diameters for these species may vary by unit but would most likely be nine inches DBH.

Sound cull logs and larger diameter tops would be offered for sale as biomass or decked onsite to be disposed of at a later date. Lodgepole pine less than seven inches DBH may be treated this way, as well. The remaining slash from harvest operations would be lopped and scattered, broadcast burned, or piled for later burning by the BLM. A burn plan would be prepared and approved, and smoke permits would be obtained from the Colorado Air Pollution Control Division, prior to any broadcast or pile burning. Some slash may be left onsite to provide soil protection; the depth of the slash would not exceed 24 inches.

There are 12 units totaling approximately 219 acres of approximately 30-year-old lodgepole pine. These units would be pre-commercially thinned to reduce stand densities and improve stand health. The dominant tree species in these regenerated stands is lodgepole pine, although

they also contain subalpine fir, aspen and Engelmann spruce. Selection of residual leave trees shall include consideration of the combination of species, dominance, form, and spacing. Spacing requirements may vary depending on desired future stand conditions and current stand densities. Thinning treatments would likely be accomplished through service contracts, stewardship contracts, or by BLM crews. The material from the thinning may be lopped and scattered or piled for burning in the winter.

Approximately 9.8 miles of existing roads would be maintained, including the portion of the Reed Creek Road that crosses private land. Approximately 3.5 miles of existing road would require road improvement, including slump repair and clearing of roadside vegetation to better accommodate log truck traffic. In addition, about 1.0 mile of temporary road may be constructed/reconstructed to facilitate harvesting activities and minimize skidding distances. Temporary roads are tentatively displayed on the attached map, although location and extent are somewhat dependent on the type of equipment used.

In general, temporary roads would not exceed 15 percent grade and the running surface would not exceed 12 feet in width. Temporary road locations would be approved by the BLM prior to construction. When harvest operations are completed, the temporary roads would be reclaimed, unless needed for post-treatment activities. Temporary roads would be out-sloped and waterbarred, as necessary, to disburse runoff. Where necessary to prepare an adequate seedbed, temporary roads and landings would be scarified. Disturbed areas (e.g. temporary roads, landings and major skid trails) would be seeded, as necessary, with a BLM approved mixture of forbs and grasses. Logging slash may be redistributed over temporary roads, or portions thereof, to further stabilize the road or to discourage use. Temporary roads left open for post-treatment activities would be signed to restrict access and closed by BLM following completion of such work.

There is an existing, re-vegetated roadbed from a previous timber sale in Timber Stand Improvement (TSI) Unit 11 that would be reconstructed to provide access to Unit 5. The roadbed currently ends just east of a dry drainage. A temporary culvert would be installed in the drainage and a temporary road would be constructed into Unit 5. The ephemeral drainage is approximately eight feet deep by 15 feet across. The length and size of the culvert would be determined by the BLM hydrologist prior to installation. The temporary culvert would be removed following the completion of harvest activities in Unit 5 (unless removal would impact future land treatment objectives).

Post-harvest treatments would include a release and weed/thinning treatment (i.e. felling of residual undesirable live trees), and noxious weed control. The BLM would monitor disturbed areas for noxious weeds for two growing seasons after project completion. If noxious weed control is found necessary, actions would be coordinated by the BLM.

Proposed Action with Forestry Methods		
Unit	Size (acres)/ miles	Treatment Method; explanatory notes
1	9	Sanitation/Salvage Harvest
2	28	Sanitation/Salvage Harvest
3	35	Sanitation/Salvage Harvest

4	22	Sanitation/Salvage Harvest
5	21	Sanitation/Salvage Harvest
6	23	Sanitation/Salvage Harvest
7	30	Sanitation/Salvage Harvest
8	4	Sanitation/Salvage Harvest
9	3	Sanitation/Salvage Harvest
10	6	Sanitation/Salvage Harvest
11	6	Sanitation/Salvage Harvest
12	3	Sanitation/Salvage Harvest
13	1	Sanitation/Salvage Harvest
14	5	Sanitation/Salvage Harvest/Roadside Hazard Tree
15	17	Sanitation/Salvage Harvest/Roadside Hazard Tree
16	6	Sanitation/Salvage Harvest/Roadside Hazard Tree
17	1	Sanitation/Salvage Harvest/Power Line Hazard Tree
18	2	Sanitation/Salvage Harvest/Power Line Hazard Tree
19	7	Sanitation/Salvage Harvest/Power Line Hazard Tree
20	15	Sanitation/Salvage Harvest
Total Harvest Acres	244	
Release & Weed	244	The cutting of undesirable live trees after treatment is referred to as Release & Weeding, whereby live trees that were not harvested are cut down because they would not contribute or may be a detriment to the future stand (i.e. diseased, competing with more desirable trees, damage or physical defects, etc.). All units would be assessed at sale closure. Release and Weed treatment would take place where it would benefit future stand. All acres could be treated.
Temporary Roads	1 mile	An estimated 1 mile would be constructed to facilitate harvest. This total includes new construction or improvement of existing roadbeds or two-tracks.
TSI 1	21	Pre-commercial Thinning
TSI 2	33	Pre-commercial Thinning
TSI 3	30	Pre-commercial Thinning
TSI 4	14	Pre-commercial Thinning
TSI 5	15	Pre-commercial Thinning
TSI 6	6	Pre-commercial Thinning
TSI 7	17	Pre-commercial Thinning
TSI 8	7	Pre-commercial Thinning
TSI 9	4	Pre-commercial Thinning
TSI 10	12	Pre-commercial Thinning
TSI 11	40	Pre-commercial Thinning
TSI 12	20	Pre-commercial Thinning
Total Pre-Commercial Thinning	219	

Design Features of the Proposed Action:

- Fences damaged from the timber salvage operation would be fixed by the contractor.

- Vegetative buffers for wetland and riparian areas would be required to protect wetland vegetation and to reduce sediment deposition in the wetlands. No vehicles or large equipment would operate within the buffer. Limited surface disturbance would be allowed within the buffers:
  -50 foot buffer for small drainages (intermittent and ephemeral)
  -100 foot buffer for perennial streams

- No mechanical equipment would be allowed to travel in a wetland or riparian area. If areas must be crossed, best management practices would be required to reduce alteration of the hydrology or vegetation.

- If an active goshawk nest is located within a timber sale unit, a 1/8th mile buffer around the nest site would be required.

- Survey monuments (brass cap monuments, bearing trees, mineral claim posts, etc.) would be located, flagged and protected, by BLM personnel during project layout and by purchaser during operations.

- Harvesting operations would be limited to frozen ground or soil conditions such that excessive rutting would not occur (summer/fall)

- Temporary road construction/reconstruction would not occur during periods of wet or frozen soils.

  Prior to moving off-road equipment (includes all logging and construction machinery except for log trucks, service trucks, pickup trucks, and similar vehicles) onto the sale area, the Purchaser shall clean such equipment of seeds, soil, vegetative matter, and other debris that could contain or hold seeds, to minimize the likelihood of spreading or introducing noxious weeds to the Contract Area. Any logging or road building equipment removed from the Contract Area during the duration of the contract must be cleaned before it is returned to the Contract Area.

- Contractors, timber sale purchasers, or others planning on performing work within 10 feet of the overhead power lines would be required to contact MPEI at least 48 hours prior to commencing work. This will allow MPEI an opportunity to review safety concerns and its power line sectionalizing coordination settings.

- The power line crosses over BLM Road 2754 in several places, and runs above, and parallel to, BLM Road 2754 in the vicinity of Harvest Units 4 and 16. There are several points on the road within these two units where the power line appears to be only about 16 to 20 feet above the running surface. To ensure adequate clearance, the overall height of log trucks would be restricted to a maximum of 14 feet where the haul route requires passing under the power line.

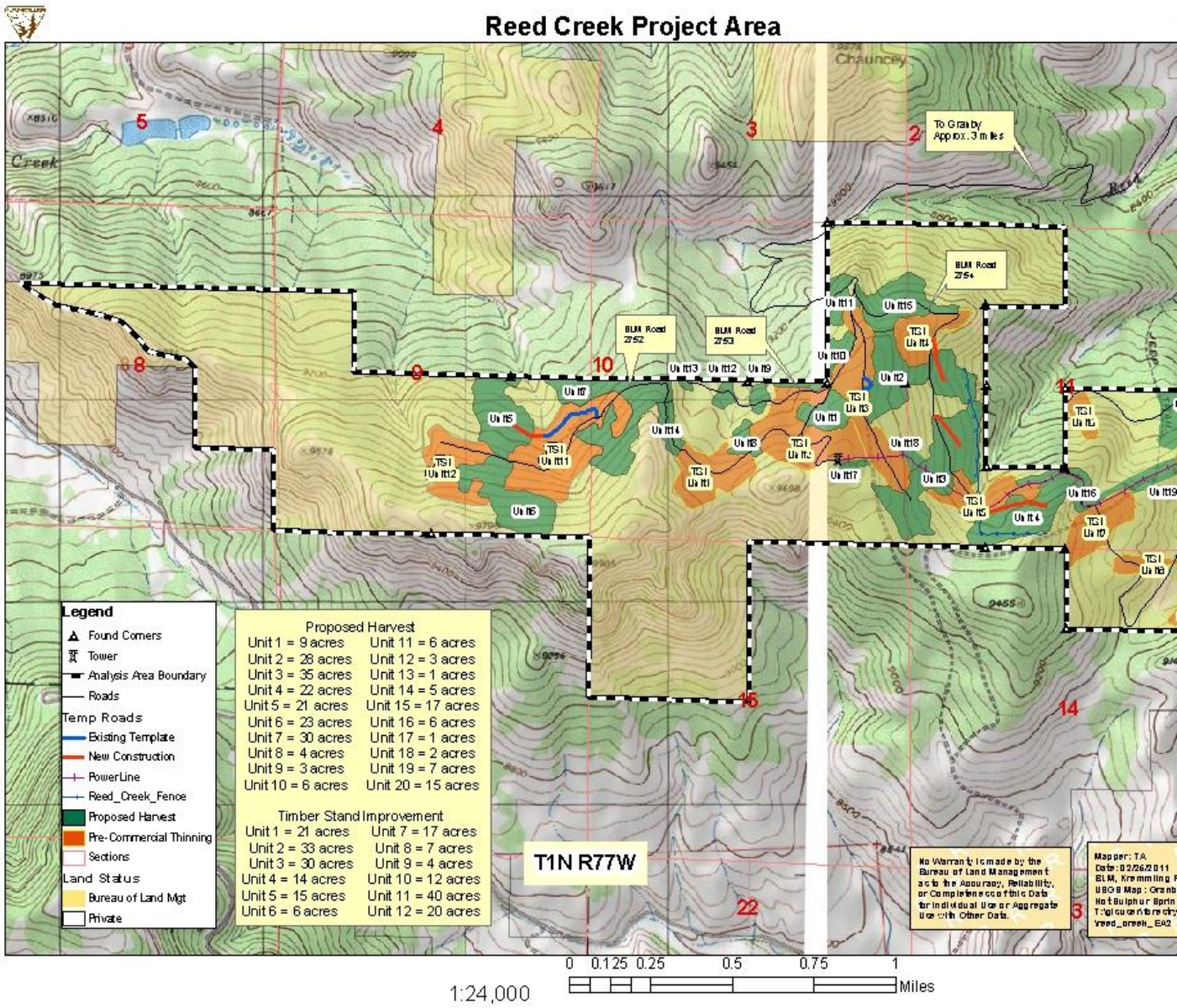
- Contractors, timber sale purchasers, or others performing work would not leave or place slash or slash piles within MPEI's ROW and stump height within the ROW would not exceed six inches.

- Reclaimed temporary roads, constructed/reconstructed as part of the proposed action, would be signed by the BLM as reforested or reclaimed areas to discourage use. Closure of temporary road construction/reconstruction would be monitored over the 4-5 year project period by the BLM forestry program during field assessments and the development of contracts regarding the proposed action. Other control measures, such as fencing, would be implemented by the contractor or forestry program if initial closure methods are ineffective.

- Purchaser shall place and maintain safety signs warning of logging truck traffic on Grand County Road 572, on either side of the junction with BLM Road 2752. Safety signs may also be required on Grand County Road 57. Information signs shall be placed in appropriate locations in, or adjacent to, areas of harvest operations. Visitors to BLM-administered lands could then choose to utilize other areas during operations.

- While in use, each internal combustion engine including tractors, trucks, yarders, loaders, dozers, welders, generators, stationary engines, or comparable powered equipment shall be provided with at least the following:
    - One fire extinguisher, at least 5#ABC with an Underwriters Laboratory (UL) rating of 3A- 40BC, or greater. Extinguisher shall be mounted so as to be readily available for use (not locked in a tool box or chained to a seat, for example).
    - One shovel, sharp, size O or larger, round-pointed with an overall length of at least 48 inches.
    - One axe, sharp, double bit 3-1/2#, or one sharp pulaski.

MAP 1


Reed Creek Project Area
Chauncey
To Granby
Approx. 3 miles
BLM Road 2752
BLM Road 2753
BLM Road 2754
Legend
Found Corners
Tower
Analysis Area Boundary
Roads
Temp Roads
Existing Template
New Construction
PowerLine
Reed_Creek_Fence
Proposed Harvest
Pre-Commercial Thinning
Sections
Land Status
Bureau of Land Mgt
Private
Proposed Harvest
Unit 1 = 9 acres
Unit 2 = 28 acres
Unit 3 = 35 acres
Unit 4 = 22 acres
Unit 5 = 21 acres
Unit 6 = 23 acres
Unit 7 = 30 acres
Unit 8 = 4 acres
Unit 9 = 3 acres
Unit 10 = 6 acres
Unit 11 = 6 acres
Unit 12 = 3 acres
Unit 13 = 1 acres
Unit 14 = 5 acres
Unit 15 = 17 acres
Unit 16 = 6 acres
Unit 17 = 1 acres
Unit 18 = 2 acres
Unit 19 = 7 acres
Unit 20 = 15 acres
Timber Stand Improvement
Unit 1 = 21 acres
Unit 2 = 33 acres
Unit 3 = 30 acres
Unit 4 = 14 acres
Unit 5 = 15 acres
Unit 6 = 6 acres
Unit 7 = 17 acres
Unit 8 = 7 acres
Unit 9 = 4 acres
Unit 10 = 12 acres
Unit 11 = 40 acres
Unit 12 = 20 acres
T1N R77W
0 0.125 0.25 0.5 0.75 1
Miles
1:24,000

No Action Alternative: Mechanical treatments to harvest dead, currently infested, and beetle/disease susceptible trees, as well as associated actions such as temporary road construction, would not occur.

CONFORMANCE WITH LAND USE PLAN AND OTHER LAWS, REGULATIONS, AND POLICIES:

The Proposed Action is in conformance with the Record of Decision for the Kremmling Resource Management Plan approved in 1984 and updated in 1999, and with the land use plan terms and conditions as required by 43 CFR 1610.5-3(a).

This Environmental Analysis fulfills the 1969 National Environmental Policy Act (NEPA) requirement for site-specific analysis. The Proposed Action is in accordance with the following laws and/or regulations, other plans, and is consistent with Federal, State, and local laws, and regulations:

- Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.)
- Endangered Species Act of 1973 as amended
- Clean Water Act Section 303d
- Section 106 of the National Historic Preservation Act of 1966 as amended

- Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

AIR QUALITY:

Affected Environment: The proposed action is located within the Middle Park area and is considered to be in compliance with the National Ambient air quality standards. The Reed Creek area is located southwest of Rocky Mountain National Park, which is a Class 1 Prevention of Significant Deteriorations (PSDs) area. Class 1 PSDs are areas where air quality is the most stringently protected, restricting actions that might affect existing quality. The most southern boundary of Rocky Mountain National Park (RMNP) is located approximately 12.5 miles to the northeast of the proposed project. The prevailing wind patterns are from the southwest-west, so most emissions from the proposed project area would be moved towards RMNP. Due to the topography of the area the smoke would tend to funnel into the main valley portion of the Colorado River and Fraser River drainages which are north of the project area and include the town of Granby.

The town of Granby is located east and slightly north of the proposed project area and includes smoke sensitive areas or receptors including an airport, and schools. The town could receive smoke from the proposed burn, depending on wind patterns, and smoke would definitely be visible from town when any pile burning is being done.

Prior to the proposed burning of piles, a Prescribed Fire Burn Plan would be submitted to the state of Colorado, detailing what best smoke management techniques would be utilized to minimize smoke and emission impacts. The Burn Plan details the expected emissions load and smoke duration and the conditions that must exist at the time of ignition. The State issues a permit with the appropriate conditions on the prescribed burn. The BLM verifies that "actions comply with all procedural and substantive requirements contained in state and local air pollution regulations" and that "no violation of any ambient air quality standards" would occur (Colorado Air Quality Control Commission, Regulation No. 9). If the dispersal conditions deteriorate during the burn, the BLM must be able to suppress the burn if they are in noncompliance with the permit. Grand County has an active open burning program and the BLM would coordinate and comply with their requirements to protect air quality.

Environmental Consequences, Proposed Action: Equipment and vehicles involved in treatments emit particulate matter, nitrogen oxides, organic compounds, carbon monoxide, sulfur oxides, and greenhouse gas pollutants. These emissions are considered to be of small quantity and of short duration. Slash pile burns produce particulate matter, nitrogen oxides, organic compounds, carbon monoxide, sulfur oxides, and greenhouse gas pollutants. A large portion of particulate matter emissions produced during prescribed burning is "lifted" by convection into the atmosphere where it is dissipated by horizontal and downward dispersion. At distances greater than five miles from the Project Area, the air concentrations for these emissions are expected to be small. Prevailing winds would generally carry emissions to the north, northeast. Directly north are "pockets" of homes and the community of Granby to the northeast. Pollutant concentrations are reduced by atmospheric mixing, which depends on weather conditions such as temperature, wind speed, amount of sunlight, and the movement of high and low pressure systems and their interaction with the local topography, for example, mountains and valleys. Normally, temperature decreases with altitude. But when a colder layer of air settles under a warm layer, producing a temperature inversion, atmospheric mixing is impeded and pollutants may accumulate near the ground. Inversions can become sustained under a stationary weather system coupled with low wind speeds.

Pile burning is generally done during the winter months, when there is adequate snow cover on the ground. Localized concentrations of smoke may occur in adjacent drainages and low lying areas during prescribed burning operations. Timing of all prescribed burning would be dependent on weather and wind conditions to help reduce the amount of residual smoke to the local communities.

In addition, vehicle travel may produce small amounts of dust and vehicle emissions in the localized area for short periods of time.

The use of timber harvest to reduce fuel hazard and loading could improve long-term forest productivity and, therefore, reduce the risks and consequences of a major wildfire. The temporary impacts of smoke from slash burning would have minor effects on the use of forest resources, such as recreation sites and scenic resources. Long-term benefits of using prescribed fire to reduce hazardous fuels would outweigh the short-term effects on air quality.

The BLM would comply with state restrictions listed in the permit to reduce air quality impacts, which include required smoke dispersion conditions for conducting burning operations. A 1995 state study concluded that federal prescribed fire activities infrequently impact visibility in Class

1 areas, and even then, only temporarily. If federal activities did start resulting in degraded air quality, additional restrictions would be imposed in the burn permits.

Environmental Consequences, No Action Alternative: Under the No Action Alternative, there would be no impact to existing air quality, unless a wildfire occurred. Wildfires generally emit a larger amount of pollutants than prescribed fires, due to the size and intensity of the burn, but the same pollutants. Smoke dispersal could also be worse than a prescribed burn, depending on the actual conditions at the time of the burn. Emissions from a wildfire may affect Class 1 and regional visibility, but do not affect long term air quality.

The potential for future wildfire and the impacts of smoke from a large wildfire event would continue as the degree of departure from the historic fire regimes increases. Impacts to air quality from wildfires are closely related to the amount of biomass material consumed (surface and ladder fuel loads) and atmospheric conditions.

A high intensity wildfire in a stand or stands with heavy fuel loading could result in high levels of emissions. Particulate matter (PM) produced from wildfires limits visibility and can exacerbate health problems. A portion of air borne particulate matter can be less than 2.5 microns in size. These small particles can be most harmful to individuals because they have the ability to penetrate deep into the lungs. If a wildfire were to occur, the emissions could present health concerns to those individuals living downwind and in nearby low lying areas. Symptoms from short-term smoke exposure can range from scratchy throat, cough, irritated sinuses, headaches, and stinging eyes. Persons with asthma, emphysema, congestive heart disease, and other existing medical conditions can have more serious reactions.

Mitigation Measures: None

INVASIVE, NON-NATIVE SPECIES

Affected Environment: Currently there are no inventoried invasive, noxious weeds within the Reed Creek project area. However, on the BLM-administered lands just north of the proposed project area, there is a large population of invasive, noxious weeds. These species include Bull thistle (*Cirsium vulgare*), Musk thistle (*Carduus nutans*), Canada thistle (*Cirsium arvense*), Hounds tongue (*Cynoglossum officinale*), Oxeye daisy (*Chrysantheum leucanthemum*), and Yellow toadflax (*Linaria vulgaris*). These invasive, noxious weeds are growing in past clear cuts, slash piles and roads where soil disturbance occurring during harvest operations in previous timber sales facilitated establishment or spread. The area has been a focus area for weed treatment within the past four years and suppressing has been difficult.

Environmental Consequences, Proposed Action: Soil disturbing activities like salvage operations, mechanical treatments, logging operations, and associated temporary roads provide an avenue for invasive or noxious weeds to spread or establish. Indirectly, tree canopy being opened up from salvage operations would increase vegetation growth within this area. If invasive weeds are established from adjacent weed-invested areas or by vehicles used in the logging operations, they are likely to out-compete native preferred vegetation which would decrease available native vegetation. Many noxious weeds are toxic or undesirable to cattle and wildlife. This would decrease wildlife habitat and available forage for cattle. As described under the proposed action, the BLM would monitor and treat the proposed project area in the event that invasive, noxious weeds become established.

Environmental Consequences, No Action Alternative: Soil and vegetation disturbing activities from salvage operations, mechanical treatments, logging operations, and associated temporary roads would not occur this would limit the ability of invasive, noxious weeds to spread.

Mitigation Measures: None

MIGRATORY BIRDS

Affected Environment: A variety of migratory bird species, primarily birds of prey and songbirds, have been observed in the proposed project area. Surveys conducted in 1994 by the Colorado Breeding Bird Atlas Partnership recorded many species including Cooper's hawk, gray jay, hermit thrush, olive-sided flycatcher, red-breasted nuthatch, red-naped sapsucker, ruby-crowned kinglet, Steller's jay, Townsend's solitaire, Williamson's Sapsucker, red-tailed hawk, black capped chickadee, hairy woodpecker, yellow-rumped warbler, and northern flicker.

No species in the area have been identified by the U.S. Fish and Wildlife Service as Birds of Conservation Concern.

Environmental Consequences, Proposed Action: Migratory birds inhabiting the proposed project area would likely move from the area during road improvement, temporary road construction, and subsequent timber harvest activities. This displacement would be short term and birds would move back into the area once the proposed project is complete. Some nest trees could be removed by the proposed project, however, a sufficient number of trees would remain to provide nesting habitat for birds. The proposed project would benefit some ground nesting species since tree harvest would open the forest canopy and allow grasses, forbs, and shrubs to establish. Additional food and cover for ground nesting species would be added to the treated areas by tree removal.

Environmental Consequences, No Action Alternative: Mechanical treatments to harvest dead, currently infested, and beetle-disease susceptible trees, as well as associated actions such as temporary road construction, would not occur. Dense stands of young, regenerated lodgepole pine would not be thinned. The structure of the vegetation in the project area would not change and the area would become more susceptible to a large-scale wildfire. This could result in a long-term change in the habitat which could adversely impact some tree nesting species since fire would likely remove more trees than the proposed harvest project. With the No Action alternative, ground vegetation would decrease in the closed canopy forest habitat and could continue to preclude some migratory bird use of the proposed project area.

Mitigation Measures: None

THREATENED, ENDANGERED, AND SENSITIVE SPECIES

Affected Environment: No federally listed species would be affected by the proposed project.

Based on vegetation and surrounding habitat, Northern goshawks, a BLM designated sensitive species, may be summer residents of the proposed project area. Surveys conducted in 1994 by the Colorado Breeding Bird Atlas Partnership recorded goshawks near the project area in similar habitat. The project area supports birds and mammals which could be preyed on by goshawks.

Environmental Consequences, Proposed Action: Goshawks migrate from the area in fall and do not return until early summer. Timber harvest activities during the spring/summer period could cause direct impacts by disrupting active nest sites and causing nest abandonment. However with the design feature of buffering the nest site an eighth mile impacts to active nests should be significantly reduced. Indirect impacts would include opening of the forest canopy which could improve habitat conditions for species utilized as prey by goshawks. In addition, the prey base for goshawks could increase as a result of the proposed timber salvage project.

Environmental Consequences, No Action Alternative: This alternative would not change the structure of the vegetation in the project area and would make the area more susceptible to fire since lodgepole pine trees would continue to die and fall to the ground. This could result in a long-term change in the habitat which could adversely impact goshawks since a fire would likely remove more trees than the proposed harvest project.

Mitigation Measures: None

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: The proposed project area is located in the Upper Colorado River Basin. The eastern portion of the project area is tributary to the Fraser River, a tributary to the Colorado River. Unit #7's eastern boundary is along a north-south ridgeline that separates the two major drainage areas (the Fraser River tributaries and the Colorado River tributaries) within the project area. Most of the proposed units are located in the eastern portion. Intermittent stream segments (as shown on a 1:24000 topographic map) include the most upstream extent of Reed Creek near proposed harvest unit #19's western boundary. TSI units 5 and 6 are on either side of an unnamed intermittent tributary to Rockwell Creek. Neither drainage had any surface flow during the field tours and fieldwork days of 2010, nor did they have vegetative evidence of a high water table. It is presumed that the drainages' northern aspects result in snow collecting in the drainages, which flow during snowmelt and then are dry.

There are no known water quality concerns on Rockwell or Reed creeks, and due to the perennial segments being located on private lands, the BLM does not monitor their water quality. The Fraser River is listed on the 303(d) List for temperature impairment, low priority, and is on the Monitoring and Evaluation List for possible copper impairment. The temperature impairment occurs during the late summer low flow periods, when nighttime recovery of water temperatures is not sufficient for coldwater aquatic life. Monitoring and Evaluation Listed streams are where there are reasons to suspect impairment, but additional data are needed to determine if an impairment exists. The cause of the possible copper impairment is unknown. The eastern portion of the project area makes up approximately one percent of the Fraser watershed acreage from the town of Fraser to the confluence with the Colorado River.

The western portion of the project area contains the intermittent headwaters of Marietta Creek, which is tributary to the Colorado River below Windy Gap Reservoir. The drainage lies between proposed harvest units #5 and #7. The proposed temporary access road to Unit #5 crosses this drainage. The drainage is well defined, but shows no evidence of surface or subsurface water. There are no identified water quality concerns for Marietta Creek, and the BLM also does not monitor this predominantly privately owned stream. This segment of the Colorado River is also listed on the 303(d) List for temperature impairment, high priority. Generally temperature concerns also occur in the late summer to early fall months, when low streamflows combined with hotter air temperatures raise stream temperatures and there is insufficient nighttime temperature recovery for coldwater aquatic life. The western portion of the project area makes up less than one percent of the acreage of the 5th order watershed of the Colorado River from the Fraser River to the Williams Fork River.

There are no known springs or seeps within the harvest units. Groundwater resources would not be impacted by the proposed action or the no action alternative.

Environmental Consequences, Proposed Action: The proposed project has the potential to impact surface water resources by disturbing or removing the surface litter and ground cover, exposing soils to increased surface erosion. Runoff from the disturbed areas could then transport this increased sediment load to streams, impacting water quality. There are no live streams within the project area and the runoff pathways are generally on gentle to moderate slopes. Much of the eroded soil would be re-deposited within the units due to changes in slope and vegetative debris (slash, fallen trees, undisturbed litter, and shrubs) detaining runoff. Roads would be expected to be the biggest potential source of sediment. Although much of the project's necessary roads are existing, road maintenance and temporary roads can be a new or increased sediment source. Runoff that reaches a compacted road surface can travel along the road, gaining in erosive energy and sediment load. If sediment loads reach a drainage, they could be carried by snowmelt to surface waters. The project design includes vegetative buffers for all drainages, whether they are perennial or not, slowing the runoff pathway by routing it to undisturbed areas. Any constructed roads would have adequate drainage and design features to reduce the length runoff travels a road and reduce sediment loads reaching drainages. The proposed roads are temporary and would be left in a stable condition at the end of the project. Impacts from these activities would be short term and limited before understory re-growth would fill in disturbed areas, reducing sediment loads to pre-project levels or below.

Environmental Consequences, No Action Alternative: Under the No Action Alternative, the amount of dead trees puts the area at a moderate to high level of wildfire risk. A large wildfire has the potential to have large impacts to water quality within the area for a much longer time than the proposed project. In the Upper Colorado Watershed Assessment (JW Associates, Inc., 2007), Grand County watersheds were assessed for their potential to impact water quality if a wildfire occurred. The ratings considered the watershed's risk of wildfire, soil erodibility, flooding debris flow risk, and location of water intakes among other factors. The project area is within an area having a composite hazard rating of "4", on a scale of 1 to 5, with 5 being the highest hazard.

Mitigation Measures: None

Finding on the Public Land Health Standard for water quality: The project area is generally considered to be meeting the Land Health Standard, as there are no known areas of accelerated erosion or water quality concerns. The project area's small size and good vegetative conditions make the area unlikely to be a measurable contributor to the water quality concerns in the Colorado or Fraser Rivers. The Proposed Action may result in some short term increases of sediment transport, but due to the slopes, vegetative buffers, and proposed road locations, increased sediment is not expected to reach perennial surface waters from the action. The proposed action would reduce the potential for a wildfire in the area, which helps protect water quality from potentially large sediment loads.

SOILS (includes a finding on Standard 1)

Affected Environment: Soil information is from the Grand County Soil Survey. The project area is mapped as primarily forming in glacial drift or in residuum and colluviums from metamorphic rock. The soils generally have duff layers of needles and twigs protecting the soil surface. The main soils are Frisco-Peeler gravelly sandy loams and Uinta sandy loams.

The project area is mapped as Uinta soil making up approximately a third of the project's acreage. Frisco-Peeler soils comprise a smaller percentage of the area, and are primarily Frisco soils that are generally located on the steeper sections and stony slopes. Peeler soils are located on concave slopes, but are similar to Frisco soils with just a smaller volume of coarse fragments than Frisco soils. The project area generally has moderate permeability and plant available moisture. Surface runoff rates are moderate (Uinta) to rapid and erosion hazards are high. The soil survey rates approximately half of the entire project area as being moderately suited for "harvest equipment operability". The limitations are primarily due to steep slopes, especially for Frisco-Peeler soil units. As slopes exceed 25 percent, these soils go from being "well suited" to "poorly suited" for logging equipment. Proposed temporary roads are generally located on soils that are mapped as having severe construction limitations for haul roads and log landings due to slopes. A few short segments can also have moderate limitations due to low strength, adding to the steep slope concerns. The soil mapping units, however, include slopes ranging from 15 to 65 percent. The proposed road locations are located on the gentler slopes within a mapping unit, and are more likely to have slight to moderate limitations than severe. Existing roads and past timber units do not have areas of slope instability or accelerated erosion.

Environmental Consequences, Proposed Action: Forest management can disturb or remove duff layers due to road construction and harvest operations, exposing soils to displacement and erosion. Some duff disturbance and soil scarification is necessary, however, to create a seedbed for coniferous seed germination and seedling survival. Mechanical equipment operating within a unit and creating roads can compact soils, reducing the soil's infiltration rates and increasing runoff rates. Most harvest operations occur when soils are not saturated and with this area's coarser textures, compaction is generally limited to smaller areas receiving the most traffic. The proposed units and temporary roads avoid steep slopes which are more erosive and have higher runoff rates. Proposed temporary roads would be constructed with adequate drainage and design, reducing the impacts to soils. Timber units generally have sufficient residual vegetative ground cover to protect soils from wind and water erosion, helping slow surface runoff and preventing accelerated erosion. As the treated units receive more sunlight from the removal of

the forest canopy, ground vegetation will increase, further stabilizing soils and increasing infiltration.

Scattering slash provides additional soil protection by detaining runoff and increasing infiltration. Runoff energies are reduced, reducing the amount of soil loss from a site. The piling and burning of slash can create areas of sterilized soils, depending on the intensity of the burn. Winter burning of the piles is most common to reduce wildfire risks, which also reduces the heat of the piles. Smoke permits are requiring smaller slash piles, which impact a small area, but can greatly increase the number of piles in a unit. Standard operating procedures are to reseed burn piles to prevent weeds and reduce soil erosion.

Environmental Consequences, No Action Alternative: Under the No Action Alternative, dead trees would continue to fall to the ground. The trees provide soil protection by disrupting runoff pathways. The acreage of dead trees could increase the potential for a larger wildfire. The Soil Survey and the Upper Colorado Watershed Assessment (J.W. Associates, Inc., 9/2007) evaluate the project area's soils as having moderate risks for soil erodibility, fertility loss, and debris flows due to a wildfire. Actual soil impacts within the project area under the No Action Alternative are difficult to predict, as they depend on if a fire occurs and the fire's extent and intensity. Generally wildfires would be expected to expose a greater percent of soils within the project area to wind and water erosion, including those on steeper more erodible slopes.

Mitigation Measures: None

Finding on the Public Land Health Standard for upland soils: The project area is considered to be meeting the Land Health Standard for upland soils and there are no existing soil concerns. The proposed treatment would result in small areas of disturbed soils that are considered a short term impact. These disturbances consist of areas where duff is removed or soil compaction occurs. On a landscape scale, however, the overall soil health is not impacted. Existing ground cover and the resulting increased ground vegetation would protect soil from erosion, encourage nutrient and water cycling, and continue soil sustainability. Under the No Action Alternative, soils are currently meeting the Standard. Continued soil health is dependent on future wildfires, which could negatively impact soil health.

VEGETATION

Affected Environment: The units identified for sanitation/salvage harvest in the proposed action are typical of the lodgepole pine stands in the area. Larger diameter (seven inches DBH and greater), mature and over-mature lodgepole pine trees make-up the vast majority of the trees in these stands. On average, five and six-inch DBH, lodgepole pine trees make-up about 20 percent of the trees within units on a per acre basis. Lodgepole pine stands in the area have serotinous cones. In other words, cones may remain on the tree without opening for one or more years. Cones open and seeds are shed when heat is provided by fires or hot and dry conditions. Incidental amounts of other species (e.g. subalpine fir, aspen, Douglas-fir, and Engelmann spruce) are present in some units.

Like other mature and over-mature lodgepole pine stands in the area, the trees in these units have been heavily infested with MPB with rates of mortality similar to those discussed in the purpose

and need identified for this analysis. About 59 percent of the five and six-inch DBH lodgepole pine have also been killed or attacked by the beetle. Most lodgepole pine in the sanitation/salvage harvest units have transitioned from the red-needle stage to the older dead, or grey, stage. Red-needled trees are present as individuals or in patches, and individual green trees exist, mainly as scattered individuals or in patches of smaller diameter trees, Currently, there is a reduced probability of active crown fire occurring in the area, as compared to pre-outbreak condition, due to the reduction in canopy bulk density. Since most of the beetle-killed trees are still standing, surface fuel loading has not changed substantially since pre-outbreak condition.

The pre-commercial thinning units were clearcut in the late 1970's. These regenerated stands are approximately 30 years old and are mainly comprised of lodgepole pine, although other species occur as well. Dwarf mistletoe infestation is present in some of these regenerated stands, mostly along the edges adjacent to mature stands. The number of stems per acre varies considerably both within, and between, regenerated stands, probably averaging between 800 and 1500 lodgepole pine stems per acre.

Environmental Consequences, Proposed Action: Under the Proposed Action, lodgepole pine, five inches and greater DBH, would be cut within the sanitation/salvage harvest units. Other conifer trees, primarily sub-alpine fir, with a DBH of nine inches and greater, would also be harvested.

Cutting dead trees in Harvest Units 1-16 and 20 would remove hazard trees adjacent to BLM Roads 2752, 2753 and 2754. The threat of falling trees to individuals using these roads would be reduced within the road segments encompassed by, or adjacent to, these units. Cutting dead trees in Harvest Units 3, 4, 16, 17, 18, and 19, would remove hazard trees adjacent to the Mountain Parks Electric power line. There would be a decreased risk of damage to the power line from falling trees. There would be a decreased cost associated with maintaining both the roads, and the power line, as a result of implementing the proposed action.

Within these units, the harvest of beetle-killed pine would facilitate successful natural stand regeneration by exposing bare mineral soil and allowing more sunlight to penetrate to the forest floor. Harvest practices would result in cones being distributed over the site, in close proximity to mineral soil where high surface temperatures would open the cones. Seed germination in mineral soil increases chances of seedling survival because seedlings are better able to withstand dry conditions. Natural regeneration is expected to occur within harvest units and should result in fully stocked stands of lodgepole pine. Therefore, seeding or planting of harvest units is not anticipated. Salvage harvest would also promote aspen suckering in areas where aspen currently exist.

Surface fuel loading would increase in the short-term with the addition of slash but that increase would be reduced by slash treatments identified in the proposed action. Following treatment, winter snow loads on remaining slash would further reduce slash depth. Increased, long-term fuel loading as a result of falling trees, at least within the units, would be avoided as a result of harvesting dead, infested and susceptible trees.

Reducing stand densities in regenerated stands would reduce competition for sunlight, water, and nutrients, resulting in increased vigor of remaining trees. Removing trees with dwarf mistletoe would improve the health of the stands. Treating units of mature beetle-killed timber adjacent to

regenerated units would help protect remaining young trees on these sites from potential fires. These long-term improvements in forest health would eventually produce more forest products and products of higher quality.

Environmental Consequences, No Action Alternative: Under the No Action Alternative, the harvest of dead and dying trees would not occur. More sunlight would reach the forest floor as needles, limbs, and cones, continue to fall from trees in the red and grey stages. Some regeneration of the site may occur if cones fall on a favorable site and release seed. Lodgepole pine is a shade intolerant species and successful regeneration of the stand generally requires exposure of the site to sunlight and sufficient exposed mineral soil.

Live understory trees would increase in growth and there would be an increase in ground vegetation. Where aspen exists, there would likely be an increase in aspen sprouting. Increased ground vegetation, duff layers, and trees on the ground, may inhibit regeneration of lodgepole pine. If regeneration is severely inhibited, the site may change to more of a grass/forb type. Surface fuel loading would increase and there would likely be a subsequent increase in surface fire intensity should an ignition occur.

As time passes, more of the seed source would be on the ground, seed viability would begin to be compromised, and dead trees would begin to fall. Maintenance costs would increase in relation to the removal of trees from the roads. As time since death increases, fall rates of beetle-killed trees would accelerate, resulting in increased risk to individuals using the roads in the Reed Creek area. The risk of damage to the Mountain Parks power line would increase, as well.

The majority of beetle-killed trees would fall within the next 10 to 15 years. Fuel loading would increase dramatically with any regenerating seedlings and existing understory trees growing up through the fallen trees. Further regeneration of the site would likely be impeded by the loss of seed source and lack of favorable sites. A fire at this time would likely result in soil sterilization, total loss of any existing regeneration, and loss of any remaining seed source. Dense stands of young, regenerated, lodgepole pine would not be thinned, resulting in stagnated stands exhibiting low vigor and increased vulnerability to insect and disease infestations. Fire occurring within the 30 year-old regenerated stands may be more active and could result in a total loss of effected stands.
Mitigation Measures: None

WILDLIFE, TERRESTRIAL

Affected Environment: The proposed project area provides coniferous habitat for a variety of birds and mammals. Rocky Mountain elk, mule deer, moose, and black bears are found in the project area during various times of the year. Use of the area by these species is common during spring, summer, and fall. Winter use is dependent on snow depth and is more common during years of shallow snow depth for deer and elk. However, moose can use the area during winters of deep snow. Small mammals, including pine squirrels and pine marten, inhabit the area on a yearlong basis.

The project area lacks a sufficient vegetative understory to support a large number of large and small wild animals. The closed canopy, characteristic of the older lodgepole stands in the area,

has blocked understory growth to the extent that ground cover vegetation is sparse in the areas proposed for timber harvest.

Environmental Consequences, Proposed Action: Wildlife species using the project area would likely move during road construction and timber harvest activities. However, these animals would use adjacent undisturbed habitat and would most likely return to the project area following completion of harvest. This displacement would be short term and animals would move back into the area once the proposed project is complete.

The proposed project would benefit wildlife in the area by opening the forest canopy, allowing sunlight and moisture to reach the ground, and thereby facilitating the growth of understory vegetation. A substantial increase in ground vegetation would be anticipated after timber harvest, resulting in more cover and food for ground dwelling birds and mammals.

Environmental Consequences, No Action Alternative: In the No Action alternative, mechanical treatments to harvest dead, currently infested, and beetle/disease susceptible trees, as well as associated actions such as temporary road construction, would not occur. Dense stands of young, regenerated lodgepole pine would not be thinned. The structure of the vegetation in the project area would not change and the area would become more susceptible to a large-scale wildfire. This could result in a long-term change in habitat on a large scale, which for the short term, would be detrimental to most species dependent on lodgepole pine forest.

Mitigation Measures: None

ACCESS/TRANSPORTATION

Affected Environment: Within the project area, there are several existing system roads that are currently open for all modes of travel and are BLM-maintained roads; Reed Creek Road No. 2752, Rockwell Road No. 2754 and Windy Gap Road No. 2753. The project area has limited public access since it is mostly landlocked by private lands. There are multiple motorized access routes that are controlled by private landowners, with only those landowners and their guests having legal motorized access. The exception for general legal public access is the contiguous western BLM-administered lands crossing Grand County Road 55. Visitors must hike a steep section of land from Grand County Road 55 or obtain permission from adjacent landowners to access the area legally. This limits motorized travel on the existing routes.

Environmental Consequences, Proposed Action: Under the Proposed Action, existing roads would be maintained or improved which would temporarily improve access and the transportation system for those who have or can obtain access. The removal of hazard trees within the project area would improve public safety, access for administrative and emergency needs while reducing costs to maintain the existing transportation system.

Environmental Consequences, No Action Alternative: It is assumed that travel would continue to occur on existing routes throughout the project area to the extent it currently occurs unless additional public access is acquired. Existing routes not on BLM maintenance schedules would not be improved which could lead to braiding or route proliferation where roads hold water, slump or become impassable due to lack of maintenance, or continued use of routes that were

meant to be temporary in nature. The construction/reconstruction of temporary routes which are not sufficiently closed by logging slash, signage or other means, could lead to the proliferation of new unsustainable routes not being analyzed for designation under the Resource Management Plan.

Mitigation Measures: None

RECREATION

Affected Environment: The Proposed Action is within the Extensive Recreation Management Area (ERMA). Under the 1984 Resource Management Plan, ERMAs are managed to provide visitor information, minimal facility development and site maintenance, dispersed recreation opportunities and public land access. Within the project area, several recreational activities take place on a small scale due to the limited public access. Activities include Off-Highway Vehicle (OHV) use, snowmobiling, hunting, and hiking.

Environmental Consequences, Proposed Action: Under the Proposed Action recreational activities that would be affected the greatest would be hunting and OHV use. There is the potential for direct impacts to occur to hunters in the form of wildlife disturbance and displacement of animals during operations. Adjacent landowners and visitors to the area with legal access may have roads temporarily blocked by equipment which can impede recreational opportunities for short periods.

Environmental Consequences, No Action Alternative: There could be an impact to recreation if the dead trees are not removed and they fall across access roads. Recreationists' ingress and egress, whether legally through private lands or via legal access from County Road 55, could be compromised due to trees blocking the road. Persons in the area would be at increased risk from falling trees.

Mitigation Measures: None

CUMULATIVE IMPACTS SUMMARY: For the purpose of this EA, the general geographic boundary for the cumulative impact analysis is the Reed Creek Area. The timeline for this analysis is 20 years since the purpose and need for the proposed action is to address concerns posed by falling, beetle-killed trees and most trees will be on the ground within 15 years. As disclosed in the Background section of this EA, past actions occurring over the last 35 years on public lands in the Reed Creek area include the development of a road system, the implementation of two timber sales, and the construction of the MPEI power line.

As discussed in the beginning of this document, several of the adjacent landowners have conducted harvest operations to remove beetle-killed and infested trees from their properties. Implementation of this proposed action would result in a minor increase in the total number of acres of beetle-killed lodgepole pine that have been harvested in the area. Due to a number of factors (e.g., access, location of affected stands, the intensity and extent of the epidemic, deterioration rates, economic and market-related considerations, other resource concerns, etc.), the majority of beetle-killed stands on public and private lands would remain untreated. Existing

activities, such as hunting and other recreational uses would continue, although such use is not expected to increase due to limited public access. Currently, there are no plans to conduct additional forest vegetation treatments beyond what is in the proposed action for this analysis.

The biggest factor affecting forest vegetation in the recent past has been the MPB epidemic. As discussed in the background and affected environment sections of this EA, all lodgepole pine stands in the area contain large numbers of beetle-killed trees, with the exception of about 236 acres of young regenerated stands. These stands are about 30 years old and are the result of timber harvest in the late 1970's. Because clearcut was the harvest/regeneration method, these stands contain very few, if any, dead, standing trees. Implementation of the proposed action would add an additional 244 acres where the risk of being struck by a falling tree would be much reduced.

As displayed on the project area map, proposed treatment units and previous harvest units encompass just about the entire length of BLM Road 2752 on BLM administered lands, and major portions of BLM Roads 2753 and 2754. Implementation of the proposed action further minimizes the risk of falling hazard trees along these roads, reducing the potential for persons or property being struck by a falling tree.

The existing road system has had only limited maintenance since it was constructed and used for harvesting timber in the late 1970s. Regular road maintenance and road improvement activities associated with timber harvest would improve road drainage and decrease the potential for surface erosion. The likelihood of large trees falling and blocking roads would be reduced along additional miles of road through implementation of the proposed action, thus lowering future maintenance costs.

Proposed treatment units adjacent or encompassing the power line adjoin previous clearcut units that the power line passes through, resulting in a further reduction in the potential for damage to the line from falling trees. There would be a reduction in maintenance visits and costs incurred by MPEI since most, if not all, large trees would not be within striking distance of the power line.

Road improvement, temporary road construction, and timber harvest activities would result in temporary, local displacement of some wildlife. However, this displacement would be short-term and wildlife would move back into areas as activities come to an end. It should also be noted that some wildlife, specifically those occupying closed-canopy, mature lodgepole pine, forest, have likely already been displaced as a result of the high mortality rates in those stands. While wildlife are currently able to travel through even dense stands of beetle-killed lodgepole pine, future movement through these areas by some species of wildlife may be prevented by fallen trees. The cutting and removal of beetle-killed trees from the proposed harvest units would maintain travel corridors for wildlife, adding to previously harvested areas on public and private lands where movement would be unimpeded by fallen trees.

The harvest of beetle-killed trees would result in improved habitat for ground nesting birds and other species that favor more open habitat. In the short-term, the amount of grasses, forbs, and shrubs would increase. Lodgepole pine seedlings would quickly occupy the site, developing into quality hiding cover for wildlife as they grow into saplings. The re-establishment of young lodgepole pine stands accomplished through the proposed action, as well as that which would be

achieved on recently harvested, adjacent, private lands, would add to the hiding cover acreage provided by previously harvested areas currently supporting young lodgepole pine trees. Through pre-commercial thinning, some of the young trees in these areas would be removed, thus reducing competition and postponing the self-pruning of lower branches. Branch retention would lengthen the period of time that these stands would maintain hiding cover for wildlife.

Implementation of the proposed action would add an additional 244 acres where the potential for large diameter fuels build-up has been reduced by the cutting and removal of dead trees. Implementation of the proposed action would also result in a short-term, incremental increase in soil disturbance and possibly result in additional areas where noxious weeds might become established. Design features of the proposed action would limit and treat noxious weed populations.

Under the no action alternative, bole decay at groundline of beetle-killed trees would continue. Trees have begun falling but fall-rate would increase as time-since-death (tsd) increases. Foot travel within beetle-killed lodgepole pine stands would likely become increasingly difficult as more trees fall to the ground, creating physical barriers to travel for both humans and wildlife, such as deer and elk. Use of the area by hunters and other recreationists may decrease as a result of physical barriers.

It is anticipated that many of the dead trees in the area will fall across roadways. Downed trees may prevent emergency and non-emergency ingress or egress associated with current uses (hunting, recreation, power line or communication site maintenance, etc.). Keeping roads open for current users would require increased maintenance resulting in increased costs. As budgets and time allow, the BLM would continue to cut and remove trees as they fall across system roads located on public lands. Downed trees may also be removed by current users as they attempt to use roads. Alternatively, current users may attempt to drive around trees blocking roads, possibly resulting in accelerated road condition deterioration and resource damage.

Likewise, it is anticipated that many dead trees will strike the MPEI power line, possibly resulting in an interruption in service to the communication site. Increased repair costs would be incurred by MPEI to restore or maintain service.

Although there is an increased likelihood that should an ignition occur, a wildfire would be large and severe, it is not a cumulative effect of the no action alternative, when added to past, present and reasonably foreseeable future actions. A large, severe wildfire could, however, result in additional contributions to the impacts of road condition deterioration and resource damage resulting from current users creating new routes to circumvent blocked roads. It could also contribute to wildlife displacement, damage to MPEIs power line, service disruption to the North Cottonwood Communication Site, and declining use by hunters or recreationists.

PERSONS / AGENCIES CONSULTED: See Appendix 2 for the Tribal consultation list. In addition, a scoping letter describing the existing condition, purpose and need, and the proposed action, was sent to 65 adjacent property owners, grazing permittees, Right-of-Way grant holders, communications-use lease holders, and other interested parties on March 4, 2011 (See scoping letter in the project file; See Appendix 3 for the scoping letter mailing list). Those receiving letters were asked to submit their written comments by April 4, 2011. The KFO received two letters in response to this scoping effort, one from Mountain Parks Electric, Inc. (MPEI), and one

from the Colorado Division of Wildlife (CDOW). Responses to comments are summarized in the Decision Record.

REFERENCES

Lewis, K. J. and Hartley I. D. 2006. Rate of Deterioration, Degrade, and Fall of Trees Killed by Mountain Pine Beetle. BC Journal of Ecosystems and Management. 7(2):11-19.

INTERDISCIPLINARY REVIEW: See IDT-RRC in Appendix 1.

APPENDICES:

Appendix 1 – Interdisciplinary Team Analysis Review Record and Checklist
Appendix 2 – Native American Tribal List
Appendix 3 – Scoping Letter Mailing List

ATTACHMENTS:

Finding of No Significant Impact
Reed Creek Sanitation Harvest and Pre-Commercial Thinning Record of Decision

Finding of No Significant Impact and Decision Record
Bureau of Land Management
Kremmling Field Office

Environmental Assessment DOI-BLM-CO-120-2010-0048-EA

Case File No. N/A

Proposed Action Title/Type: Reed Creek Sanitation Harvest and Pre-Commercial Thinning

Applicant/Proponent: BLM

Location of Proposed Action: Grand County, Colorado;
T.1N., R.77W., Sections 9, 10, 11, and 14; 6th P.M.

USGS Topographical Map: See EA

Conformance with Applicable Land Use Plan:

These plans have been reviewed to determine if the proposed action conforms to the land use plan terms and conditions as required by 43 CFR 1610.5. This proposed action is in conformance with the following land use plans:

Name of Plan:	Kremmling Resource Management Plan	Date Approved:	1999

BACKGROUND

The Kremmling Field Office of the Bureau of Land Management (BLM) is proposing to conduct sanitation harvest and pre-commercial thinning in the Reed Creek area southwest of Granby, Colorado. As disclosed in the EA, the lodgepole pine stands in this area have seen a dramatic increase in tree mortality as a result of the mountain pine beetle (MPB) epidemic. The proposal was developed to: reduce threats to public safety; protect infrastructure; reduce the accumulation of fuels within the wildland/urban interface; improve tree health in overstocked, regenerated stands and; salvage dead and dying timber while it still retains some value.

Twenty units totaling approximately 246 acres of mature lodgepole pine would be harvested (see EA map). Associated activities include: the possible construction of, and maintenance on, an estimated one mile of temporary roads; temporary road reclamation (i.e., out-sloping, water barring, seeding, etc.); seeding of landings; road maintenance and improvement on about 9.8 miles of existing road (i.e., blading and shaping of road surface, cleaning ditches, smoothing and filling ruts, tree removal within road clearing limits, slump repair, etc), and slash piling and burning. Disturbed areas would be monitored for two years after completion of harvest operations for noxious weeds. Noxious weed control actions, if necessary, would be coordinated by the BLM. A 'Release & Weeding' treatment (the cutting of undesirable live trees left after the completion of harvest operations) would occur in all units.

Pre-commercial thinning would occur in 12 units totaling approximately 219 acres in regenerated, overstocked stands (see EA map)

Finding of No Significant Impact

The Kremmling Field Office interdisciplinary review and analysis determined that the proposed action would not trigger significant impacts on the environment based on criteria established by regulations, policy and analysis.

I have reviewed the above mentioned NEPA compliance document (EA). I have determined that the proposed action and the alternatives are in conformance with the Kremmling Resource Management Plan, 1999.

I have determined, based on the analysis in DOI-BLM-CO-120-2010-0048 –EA, that this is not an action that would significantly affect the quality of the human environment and, therefore, an Environmental Impact Statement is not required. This determination is based on the rationale that the significance criteria, as defined by the Council on Environmental Quality (CEQ) (40 CFR 1508.27) have not been met.

The following rationale was used to determine that significant impacts were not present for each criteria mentioned in Title 40 CFR 1508.27:

1. *Beneficial and adverse impacts.*
The Proposed Action would decrease the number of standing, beetle-killed trees along roads and powerlines, and within the project area. Decreasing the number of standing dead trees would reduce the risk of an individual, or a powerline, being struck by a falling tree, at least in the areas being treated. The proposed action would also reduce the build-up of fuels along property boundaries, some of which are immediately adjacent to homes. Harvest operations would facilitate regeneration of the treated sites. Pre-commercial thinning of young, overstocked stands would improve health and vigor of remaining trees and, therefore, they would be less susceptible to insects or diseases.

Adverse impacts would be minor and of short duration. Implementing the Proposed Action may result in some displacement of wildlife during active harvest operations or associated activities. Wildlife disturbance and displacement may result in potential impacts on hunter success for those with access to the area. Likewise, recreational access in localized areas may be blocked temporarily by working equipment.

2. *The degree to which the proposed action affects public health or safety.*
Decreasing the number of standing dead trees would reduce the risk of an individual, or a powerline, being struck by a falling tree, at least in the areas being treated.

3. *Unique characteristics of the geographic area.*
None.

4. *The degree to which the effects on the quality of the human environment are likely to be highly controversial.*

The Proposed Action is not a highly controversial project.

5. *The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.*
The possible effects of the Proposed Action on the human environment are not highly uncertain or involve unique or unknown risks

6. *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.*
The Proposed Action does not establish a precedent for future actions with significant effects and does not represent a decision in principle about a future consideration.

7. *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.*
Past, present, and foreseeable future individual actions do not result in cumulatively significant impacts.

8. *The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.*
The project is a **No Effect**. There are **no historic properties that would be affected**.

9. *The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.*
No threatened or endangered species are present in the project area, or would be affected by the project.

10. *Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.*
The Proposed Action will not threaten a violation of Federal, State or local law or requirements imposed for the protection of the environment.

Decision: It is my decision to authorize the Proposed Action as described in the attached EA, DOI-BLM-CO-120-2010-0048-EA. This decision is contingent on meeting all monitoring requirements listed below.

Mitigation Measures: None.

Compliance/Monitoring: The BLM would monitor disturbed areas for noxious weeds for two growing seasons after project completion. If noxious weed control is found to be necessary, actions would be coordinated by the BLM.

Compliance with all harvest operations would be monitored by the BLM during sale administration.

Reviewer: _/s/ Susan Cassel_____ Date_____8/4/11_____
Environmental Coordinator

Authorized Officer: __/s/ Susan Cassel_____ Date:__8/4/11____

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Kremmling Field Office
2103 E. Park Avenue
Kremmling, CO 80459
www.blm.gov/co/kremmling

REED CREEK SANITATION HARVEST AND PRE-COMMERCIAL THINNING
Decision Record
August 4, 2011

1.0 Introduction and Background

The Reed Creek analysis area encompasses approximately 1,500 acres of public lands administered by the BLM. Located within an area considered to be the epicenter of the current Mountain Pine Beetle (MPB) epidemic in Colorado, the analysis area is about 3.5 miles southwest of the town of Granby. Approximately 1,300 acres of the analysis area are forested. The forest is primarily comprised of mature, and overmature, lodepole pine stands, although several aspen stands are scattered throughout the area. Aspen, subalpine fir, Engelmann spruce and Douglas-fir are found in varying amounts within some lodgepole pine stands, especially on northern aspects or in stringers along drainages. The remaining 200 acres are considered non-forested, dominated mainly by sagebrush, with grass and various forb species.

Mature and over-mature lodgepole pine stands have experienced severe MPB infestation and mortality with approximately 85-95 percent of trees larger than seven inches DBH (Diameter Breast Height) currently infested or dead. Many smaller trees with five or six inch diameters have been killed as well, largely due to their proximity to larger, beetle infested trees.

The area includes the North Cottonwood Communication Site and Mountain Parks Electric's (MPEI) power line that provides electricity to the site. The power line passes through the eastern third of the analysis area, entering along its eastern boundary and proceeding west to the communication site. A Right-of-Way (ROW) was granted in 1998 that conveyed the right to MPEI to construct, operate, maintain, and terminate a 14.4 KV power line on public land. The ROW authorized a width of 20 feet, 10 feet on either side of the power line, for a length of 6,870 feet. Forest regeneration and larger trees were cleared from within the 20 foot easement during the construction of the power line. Private lands border almost all of the analysis area. Several of the adjacent landowners have previously removed, or are currently removing, dead trees to reduce hazardous fuels.

Access is via the Reed Creek Road (BLM 2752) which extends from Grand County Road 572 to its terminus in the western portion of the analysis area. Approximately 3.4 miles of the Reed Creek Road crosses private land, from its junction with Grand County Road 572 to the public land boundary. Although the road is not open to public use, the BLM has a perpetual easement for the road with the private landowners. In addition to the Reed Creek Road, other roads

providing access within the analysis area include the Rockwell Road (BLM 2754), a short portion of the Windy Gap Road (BLM 2753), and short road spurs. The existing road system was developed to provide access for previous timber sales.

Past forest management in the Reed Creek project area includes two notable timber sales. The first timber sale occurred in 1977 and included 14 clearcut units totaling approximately 236 acres of harvest. The clearcut units have regenerated into overstocked stands of approximately 20-25 foot tall lodepole pine. Dwarf mistletoe is present in some of these regenerated stands, mostly around the perimeter adjacent to mature stands. The second notable timber sale occurred in 1994 and consisted of four partial-cut units totaling approximately 50 acres. These units are now multi-aged lodgepole pine/ mixed conifer with 90 percent mortality in the lodgepole pine overstory.

2.0 Decision and Rationale

2.1 Alternatives Considered but not Selected

Under the No Action alternative, mechanical treatments to harvest dead, currently infested, and beetle/disease susceptible trees, as well as associated actions such as temporary road construction, would not occur. The majority of beetle-killed trees would fall within the next 10-15 years, increasing fuel loading. Persons in the area would be at increased risk from falling trees. Maintenance costs would increase in relation to the removal of trees from the roads. Infrastructure (MPEI power line) would remain at risk from falling trees. Regeneration of the stands could be impeded by an increase in ground cover, as well as, fallen trees. Dense stands of young, regenerated lodgepole pine would not be thinned, resulting in low vigor and increased vulnerability to insect and disease infestations.

2.2 Decision and Rationale

Two public comments were received for this project as a result of scoping efforts. Based on information in the EA, the project record, and consultation with my staff, I have decided to proceed with the proposed action as described in the EA. By salvaging beetle-killed timber and removing hazard trees, the proposed action addresses the purposes and needs identified in the EA. Specifically, the proposed action would: reduce the threat to public safety; protect infrastructure; reduce the accumulation of fuels within the wildland/urban interface, and; salvage dead and dying timber while it still retains some value. Adverse impacts are expected to be minor and short-term as disclosed in the EA and FONSI.

3.0 Consultation and Coordination

No federally listed animal or plant species (or their habitat), were found; therefore, consultation with United States Fish and Wildlife Service (USFWS) is not necessary. The Colorado State Historic Preservation Office (SHPO) was consulted, the project is a no effect; no historic properties would be affected. Cultural resources would not be impacted by the proposed action, therefore, Section 106 consultation is not required. Written consultation was initiated with Native American tribes and to date, no tribe has identified any area of traditional cultural concern. See Appendix 2 for the Tribal consultation list.

4.0 Public Involvement

A scoping letter describing the existing condition, purpose and need, and the proposed action, was sent to 65 adjacent property owners and other interested parties on March 4, 2011 (See Appendix 3 for the scoping letter mailing list; See scoping letter in project file). Those receiving letters were asked to submit their written comments by April 4, 2011. The KFO received two letters in response to this scoping effort, one from Mountain Parks Electric, Inc. (MPEI), and one from the Colorado Division of Wildlife (CDOW).

MPEI offered their support for the project and also expressed concerns related to log truck clearance under power lines, worker safety near power lines, and maintaining access within their ROW. In their letter, MPEI included several requests related to the implementation of those parts of the proposed action adjacent to the power line or within their ROW.

As requested, the BLM will require contractors, timber sale purchasers, or others planning on performing work within 10 feet of the overhead power lines to contact MPEI at least 48 hours prior to commencing work. This will allow MPEI an opportunity to review safety concerns and its' power line sectionalizing coordination settings. MPEI encouraged the BLM to notify the drivers of the logging trucks to limit the overall height of their trucks to 14 feet to assure clearance under their power lines in the Reed Creek area. BLM personnel observed that there are several locations on BLM Road 2754 where the power line appears to be only 16 to 20 feet above the running surface of the road. To ensure adequate clearance, the overall height of log trucks would be restricted, as necessary, where the haul route requires passing under the power line. Contractors, timber sale purchasers, or others performing work will not leave or place slash or slash piles within MPEI's ROW and stump height within the ROW will not exceed six inches. MPEI expressed their desire that, if reforestation work (seeding, planting, etc) is part of the project, it shall not occur within 60 feet of either side of the overhead power line. As disclosed in the EA, it is expected that natural regeneration would occur in harvested units and that seeding, planting or other reforestation work is not anticipated.

CDOW noted that the area is mapped as summer range for elk and mule deer, year round habitat for moose, and as a black bear concentration and human conflict area. Concerns were expressed that the proposed action, specifically logging, will result in the displacement of wildlife and that displacement could, subsequently, increase the likelihood of human/wildlife conflicts. CDOW also felt that logging in this area will have a negative impact on hunters during the big game hunting seasons. CDOW recommended that logging occur from December 1st to May 15th to protect deer and elk fawning and calving areas and reduce impacts to the hunting public in the fall. If logging operations did take place during the big game hunting seasons (starting in August and ending in late November), CDOW recommended that logging trucks be restricted from hauling on weekends.

As disclosed in the EA, wildlife species using the project area will likely move during road construction and timber harvest activities to adjacent undisturbed habitat. Harvest operations will not occur simultaneously in all units, thus limiting the area of disturbance. Displacement will be short-term and animals will move back once activities in an area were complete. Impacts on hunters will likely be minimal as there is only limited public access to the area. The project area is surrounded by private lands except for contiguous BLM administered lands on the west edge of the analysis area. A short segment of Grand County Road 55 crosses a corner of this

BLM administered land. Roads entering the area do not provide public access. To access the project area, visitors must hike a steep section of land from Grand County road 55 or obtain permission from adjacent landowners to access the area legally.

Requiring winter logging, on the other hand, will result in increased costs being incurred by the purchaser to plow roads and maintain them in a condition to ensure safe access. The prospect of incurring increased project costs during a depressed timber market could result in a timber sale receiving no bids. Placing restrictions on harvest operations could result in decreasing a purchaser's ability to respond to opportunities during a period of depressed timber markets. Winter logging could also result in less than desired regeneration of the harvested sites. Lodgepole pine regenerates best when harvest operations expose the mineral soil over some portion of the site.

Concerns were raised by CDOW that logging might result in increased sedimentation of streams and recommended that a 100-meter buffer should be maintained along creeks and streams to protect water quality. The potential for increased sediment to impact water quality is addressed in the EA. The discussion notes that the project design includes vegetative buffers for all drainages. The conclusion in the analysis is that impacts from the activities described in the proposed action will be short-term and limited until understory regrowth will fill in disturbed areas and reduce sediment loads to pre-project levels or below.

Additional recommendations made by CDOW relating to the seeding of disturbed areas, noxious weed monitoring and treatment, cleaning of equipment, temporary road reclamation, etc. had been previously identified in the proposed action or are standard operating procedures for harvest operations.

5.0 Plan Consistency

Based on information in the EA, the project record, and recommendations from BLM specialists, I conclude that this decision is consistent with the 1999 Kremmling RMP, and the Federal Land Policy Management Act (FLPMA).

6.0 Administrative Remedies

The decision described in this document is a forest management decision and is subject to protest by the public. In accordance with Forest Management Regulations at 43 CFR Subpart 5003 Administrative Remedies, protests of this decision may be filed with the authorized officer, David Stout, within 15 days of the publication date of the notice of decision/timber sale advertisement in the Middle Park Times, Granby, Colorado.

This forest management decision is comprised of two parts. The decision to implement and sell a commercial timber sale consisting of salvage and hazard tree units, and associated actions (e.g. road maintenance, road improvement, temporary road construction/reconstruction, slash disposal, etc.) will be published as a timber sale advertisement. The decision to implement non-timber sale actions such as: pre-commercial thinning of 30-year-old lodgepole pine or post-harvest treatments (e.g. Release & Weed/thinning, noxious weed control), would be published as a forest management decision.

Title 43CFR §5003.3 subsection (b) states: "Protests shall be filed with the authorized officer and shall contain a written statement of reasons for protesting the decision." This precludes the acceptance of electronic mail (email) or facsimile (fax) protests. Only written and signed hard copies of protests that are delivered to the Kremmling Field Office will be accepted. The protest must clearly and concisely state which portion or element of the decision is being protested and the reasons why the decision is believed to be in error.

Title 43 CFR § 5003.3 subsection (c) states: "Protests received more than 15 days after the publication of the notice of decision or the notice of sale are not timely filed and shall not be considered." Upon timely filing of a protest, the authorized officer shall reconsider the project decision to be implemented in light of the statement of reasons for the protest and other pertinent information available to him. The authorized officer shall, at the conclusion of the review, serve the protest decision in writing to the protesting party(ies). Upon denial of a protest, the authorized officer may proceed with the implementation of the decision as permitted by regulations at 5003.3(f).

If no protest is received by the close of business (4:30 PM) within 15 days after publication of the decision notice, this decision will become final. If a timely protest is received, the project decision will be reconsidered in light of the statement of reasons for the protest and other pertinent information available, and the Kremmling Field Office will issue a protest decision.

For further information, contact David Stout, Field Manager, P.O. Box 68, 2103 East Park Avenue, Kremmling, Colorado 80459-0068.

__/s/ Susan Cassel_____ ____8/4/11_____
For David Stout Date
Field Manager, Kremmling Field Office

Appendix 1

INTERDISCIPLINARY TEAM ANALYSIS REVIEW RECORD AND CHECKLIST:

Project Title: Reed Creek Sanitation Harvest and Pre-Commercial Thinning
Project Leader: Kenneth Belcher
Date Proposal Received: (Only for external proposals)
Date Submitted for Comment:
Due Date for Comments:

Need for a field Exam: (If so, schedule a date/time)

Scoping Needs/Interested or Affected Publics: (Identify public scoping needs)

Consultation/Permit Requirements:

Consultation	Date Initiated	Date Completed	Responsible Specialist/ Contractor	Comments
Cultural/Archeological Clearance/SHPO	NA	2/16/2011	BBW	The SHPO was consulted on a no effect for cultural report #CR-10-37.
Native American	9/29/2010	3/3/2011	BBW	To date no American Indian tribe has identified any area of traditional cultural concern.
T&E Species/FWS	N/A	N/A	McGuire	A list of threatened, endangered, and candidate species which could inhabit the area was received for the U.S. Fish and Wildlife Service March, 2011
Permits Needed (i.e. Air or Water)	NA-water Air- see comments	NA	PB	A smoke permit would be obtained prior to any burning of slash piles. The permit specifies what conditions must exist to burn and when burning must cease to protect air quality. No water permits are needed.

(NP) = Not Present
(NI) = Resource/Use Present but Not Impacted
(PI) = Potentially Impacted and Brought Forward for Analysis.

NP NI PI	Discipline/Name	Date Review Comp.	Initials	**Review Comments** (required for Critical Element NIs, and for elements that require a finding but are not carried forward for analysis.)
PI	Air Quality **Belcher**	7/21/2011	PB	See the Air Quality Section
NP	Areas of Critical Environmental Concern **McGuire**	4/14/2011	MM	There are no Areas of Critical Environmental Concern in the proximity of the proposed project area.
NP	Cultural Resources **Wyatt**	3/3/2011	BBW	Cultural Report CR-10-37 located no sites within the proposed project area. The project is a no effect, there are no historic properties that would be affected.
NI	Environmental Justice **Cassel**	3/23/2011	SC	According to the most recent Economic Census Bureau statistics (2009), there are minority and

				low income communities within the Kremmling Planning Area. There would be no direct impacts to these populations.
NP	Farmlands, Prime and Unique **Belcher**	4/7/2011	PB	There are no farmlands, prime or unique, in the proximity of the proposed project area.
NP	Floodplains **Belcher**	4/7/2011	PB	The proposed action is located in the uplands and would not affect any floodplains.
PI	Invasive, Non-native Species **Hughes**	4/07/11	ZH	See analysis
PI	Migratory Birds **McGuire**	4/14/2011	MM	See analysis
NI	Native American Religious Concerns **Wyatt**	3/3/2011	BBW	To date no American Indian tribe has identified any area of traditional cultural concern.
PI	T/E, and Sensitive Species (Finding on Standard 4) **McGuire**	4/14/2011	MM	See analysis
NP	Wastes, Hazardous and Solid **Elliott**	4/7/11	KE	There are no quantities of wastes, hazardous or solid, located on BLM-administered lands in the proposed project area, and there would be no wastes generated as a result of the Proposed Action or No Action alternative.
PI	Water Quality, Surface and Ground (Finding on Standard 5) **Belcher**	4/7/2011	PB	See Water Quality Section in the Environmental Assessment
NP	Wetlands & Riparian Zones (Finding on Standard 2) **Belcher**	4/7/2011	PB	There are no known wetland or riparian zones within the project area. Under the Proposed Action, any field discovered wetlands will be protected with a buffer. There are no impacts under the No Action Alternative.
NP	Wild and Scenic Rivers **Schechter**	3/1/11	HS	There are no eligible Wild and Scenic River segments in the proposed project area.
NP	Wilderness **Monkouski**	4/12/2011	JJM	There is no designated Wilderness or Wilderness Study Areas in the proximity of the proposed project area. There are no lands with wilderness characteristics in the proposed project area.
PI	Soils (Finding on Standard 1) **Belcher**	4/7/2011	PB	See the Soils Section in the Environmental Assessment.
PI	Vegetation (Finding on Standard 3) **Landing Tibbs K. Belcher**	4/12/2011 3/22/2011	CL KB	See Analysis
NI	Wildlife, Aquatic (Finding on Standard 3) **McGuire**	4/14/2011	MM	There would be no impact to aquatic wildlife as a result of the Proposed Action or No Action Alternative.
PI	Wildlife, Terrestrial (Finding on Standard 3) **McGuire**	4/14/2011	MM	See analysis
PI	Access/Transportation **Monkouski**	4/12/2011	JJM	See analysis.
PI	Forest Management **K. Belcher**	3/22/2011	KB	See Vegetation Analysis
NI	Geology and Minerals **Elliott**	4/7/11	KE	There would be no impacts to geologic or mineral resources of the area by the proposed action or the no action alternative.
PI	Fire **Wyatt**	3/3/2011	BBW	While in use, each internal combustion engine including tractors, trucks, dozers, skidster, welders, generators, stationary engines, or comparable powered equipment shall be provided with at least the following: a) One fire extinguisher, at least 5#ABC

				with an Underwriters Laboratory (UL) rating of 3A- 40BC, or greater. Extinguisher shall be mounted so as to be readily available for use (not locked in a tool box or chained to a seat, for example). b) One shovel, sharp, size AO@ or larger, round-pointed with an overall length of at least 48 inches. c) One axe, sharp, double bit 32#, or one sharp pulaski. The No Action Alternative would increase fuel loading and impacts associated with a major fire event would result.
NI	Hydrology/Water Rights **Belcher**	4/7/2011	PB	Hydrologic concerns are addressed in the Water Quality and Soils Section of the Environmental Assessment. There are no impacts to Water Rights from the Proposed Action or the No Action Alternatives.
NI	Paleontology **Wyatt**	3/3/2011	BBW	Geologic formations sensitive for fossil resources are present, but would not be impacted by the proposed project. BLM standard "discovery" stipulation is to be attached to any authorization allowing project to proceed.
NI	Noise **Monkouski**	4/12/2011	JJM	Minor short term noise would occur during operations. Adjacent private landowners have also removed hazardous trees in recent years. Noise from operations to improve stand health, remove hazard trees and protect structures and adjacent homes is consistent with those noises from operations conducted on adjacent private lands. By notifying adjacent land owners of the 4-5 year project and the associated outcomes through a scoping letter noise is less likely to be an issue. There would be no impacts under the proposed action or the no action alternative.
N I	Range Management **Landing Tibbs**	4/12/2001	CL	Livestock grazing occurs from 06/01 through 09/15. Coordinate with livestock operator to avoid conflicts with livestock and equipment. There would be no impacts to grazing from the No Action Alternative.
PI	Lands/ Realty Authorizations **Sperandio**	3/3/2011	AS	There is one overhead power line ROW for Mountain Parks Electric (COC-62253) that provides power to the North Cottonwood Communication site - Verizon (COC-67115), Andrews Radio Service (COC-60672), and Sprint (COC-73902). Mountain Parks concerns would be incorporated in the decision of the proposed action. The communication site is cleared of timber. The No Action Alternative would increase the likelihood of damage to the power line from falling trees and the possibility of a power outage to the communication site.
PI	Recreation **Monkouski Schechter**	4/12/2011	JJM	See analysis.
NI	Socio-Economics **Cassel**	3/23/2011	SC	There would be no impacts to the socio

				economics from the proposed action or the no action alternative, as neither action would involve a large workforce and the timber does not have much value.
PI	Visual Resources **Elliott**	4/22/11	KE	The proposed project is within a Visual Resource Inventory (VRI) Class II area. The proposed units are designed to be irregular in shape; treatment within units would use Visual Resource Management (VRM) Best Management Practices (BMPs) and techniques to avoid creating straight lines, to follow natural vegetation patterns where possible, and would attempt to mimic the existing vegetative patterns of the surrounding landscape. Treatment units would likely be visible from Granby, however by using VRM BMPs and the techniques listed above the visual impacts would be short term and would decrease over time. The level of change to the existing landscape from the proposed action would be low. The no action alternative would not change the landscape and therefore would have no impact to visual resources.
PI	Cumulative Impact Summary **K. Belcher**	6/07/2011	KB	See analysis.
FINAL REVIEW				
	P&E Coordinator **Cassel**	6-9-11	SC	

Appendix 2

NATIVE AMERICAN TRIBES CONTACTED:

Colorado Commissioner of Indian Affairs
Attn: Ernest House, Jr., Exec. Sec.
130 State Capitol
Denver, Colorado 80203

Kim Harjo, Chairman
Northern Arapaho Business Council
P O Box 396
Fort Washakie, Wyoming 82514

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Northern Arapaho Tribe
328 Seventeen Mile Road
Arapaho, Wyoming 82510

Darlene Conrad, THPO Director
Northern Arapaho Tribe
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Fort Washakie, Wyoming 82514

Mike LaJeunsse, Chairman
Shoshone Tribe
P O Box 538
Fort Washakie, Wyoming 82514

Wilford Ferris
Shoshone Tribe, Cultural Center
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Fort Washakie, Wyoming 82514

Neil Cloud, NAGPRA Rep.
Southern Ute Indian Tribe
Mail Stop #73
Ignacio, Colorado 81137

Jimmy R. Newton, Chairman
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Ignacio, Colorado 81137

Richard Jenks, Jr., Chairman
Uintah & Ouray Tribal Business Center
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Fort Duchesne, Utah 84026

Betsy Chapoose, Director
Uintah & Ouray Tribal Business Council
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Terry Knight, Sr., THPO Director
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Gary Hayes, Chairman
Ute Mountain Ute Tribe
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Appendix 3
Scoping Letter Mailing List:

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